



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
OREGON OPERATIONS OFFICE  
805 SW Broadway, Suite 500  
Portland, Oregon 97205

April 29, 2015

Mr. Jim Orr  
Oregon Department of Environmental Quality  
Northwest Region Office  
2020 SW 4<sup>th</sup> Avenue, Suite 400  
Portland, Oregon 97201

Dear Mr. Orr:

The Environmental Protection Agency has completed a review of the Remedial Investigation and Source Control Evaluation Report. For your consideration and use, we have enclosed the technical review comments prepared by the EPA's contractor CDM Smith.

The EPA's review has identified issues related to the overall completeness of the site assessment as well as concerns with the data evaluations/presentations provided in the report. The EPA and CDM Smith are available to meet with you at your convenience to discuss these review comments.

Please feel free to contact Sean Sheldrake at (206) 553-1220 or [sheldrake.sean@epa.gov](mailto:sheldrake.sean@epa.gov) with any questions that you might have on the EPA's review of the Remedial Investigation and Source Control Evaluation Report for the Northwest Pipe Company.

Sincerely,

A handwritten signature in black ink, reading "Rich Muza", is positioned above the printed name.

Rich Muza  
Remedial Project Manager

Enclosure

**Review Comments on Northwest Pipe Company  
Remedial Investigation & Source Control Evaluation  
12005 Burgard Road, Portland, Oregon**

**General Comments**

1. As stated in comments on the January 2014 Draft Final RI/SCE Report, additional groundwater monitoring data is needed to evaluate the groundwater pathway at the site. The data presentation in the RI/SCE indicates a southwest trending tetrachloroethene (PCE) plume extending from Southeast Area monitoring well MW5 to the Port of Portland Terminal 4 monitoring well T-4-MW-03S. In 2005, the PCE and vinyl chloride concentrations at monitoring well T-4-MW-03S were 14 and 5.4 µg/L, respectively, exceeding the February 2015 Preliminary Remediation Goals (PRGs) that have been established for the Portland Harbor site (0.24 and 2 µg/L for PCE and vinyl chloride, respectively) by up to 58 times. Monitoring well T-4-MW-03S is located less than 100 feet from the edge of Slip 1 and the PCE and vinyl chloride concentrations in surface water at Slip 1 have not been determined.

The RI/SCE concludes that the potential for groundwater to exceed protective standards is very low because groundwater data indicates that PCE and trichloroethene (TCE) concentrations are decreasing at the site. A new Figure 6-6 was added to the RI/SCE to present time versus PCE and TCE concentrations, which demonstrate trends in groundwater at the site. The time versus PCE and TCE concentration plots presented in Figure 6-6 incorrectly plot the last data point in the time series (i.e., August 2007) as 0 µg/L for PCE and TCE concentrations at all monitoring wells. This is misleading and the trend plots should be corrected. The actual concentrations, based on data presented in Tables 5-2 and 5-12, show an increasing PCE trend at MW-05, with PCE concentrations increasing from 52 µg/L in 2004 to 1,400 µg/L in 2007. Concentrations at monitoring wells MW-03 and MW-04 also increased between 2005 and 2007. Data collected at the Terminal 4 monitoring well T4-MW-03S from April 2004 through May 2005 does not show a stable trend in PCE and vinyl chloride concentrations. Given the increasing trend at some of the monitoring wells in the Southeast Area, unstable concentration trends at monitoring well T4-MW-03S, and the lack of data more recent than 2007, additional groundwater monitoring should be performed to evaluate PCE and related VOC concentration trends and plume stability. Until contaminant concentration trends in groundwater are determined, the evaluation of the risk due to contaminated groundwater discharging to surface water is inconclusive.

2. The stormwater collection and treatment system at this site is critical for prevention of discharging stormwater with unacceptable levels of polyaromatic hydrocarbons (PAHs), polycyclic biphenyls (PCBs), and metals to Outfall 18/WR-123 and the Willamette River. To be protective, the system must have sufficient flow capacity and volume to handle significant storm events that are defined in Section 2.4.3 as a storm event of 0.83 inches of rainfall within 24-hours (criteria encompasses all storm events contributing 90 percent of the total annual runoff). Based on the information presented in Section 2.4.3 and Appendix D, the maximum capacity of the stormwater treatment system is 630 gallons per minute (gpm) and the total detention volume is 46,547 gallons. There is insufficient information presented to evaluate whether or not this capacity is adequate to handle stormwater runoff during the 0.83 inches of rainfall over a 24-hour storm event. The estimated runoff rate during the 0.83 inches rainfall event should be stated in the report and the runoff rate should be compared to the maximum capacity of the treatment system.
3. The Hydrologic and Hydraulic Model presented in Appendix D does not provide sufficient information to evaluate the performance of the collection system and piping. While the modeled hydraulic grade line for baseline conditions during 2-, 10-, and 25-year storm events and the location of collection components and pipe are provided, the hydraulic grade line for the regraded scenario is not provided. In addition, the runoff rates for the 2-, 10-, and 25-year storm events during the baseline and regraded scenarios are not provided. The report states that a 10-year storm event total flow rate equates to a flow rate of 43 cubic feet per second (19,200 gpm); however, this seems too high given rainfall rates in Portland and would

exceed the capacity of the stormwater treatment system (630 gpm). Documentation of the modeling results presented in Appendix D is required for EPA to assess the regraded scenario model.

4. The hydraulic evaluation for the treatment system used the 0.83 inches of rainfall over 24-hour (i.e., 90 percent of annual runoff) to estimate stormwater runoff and the hydraulic modeling for the collection and piping system used 2-, 10-, and 25-year storm events to estimate stormwater runoff. The report should explain why these different scenarios were used to estimate runoff to the collection and piping system and to the treatment system.
5. The effluent from the stormwater treatment system should be monitored for PAHs, PCBs, and arsenic in addition to other NPDES 1200-Z parameters to ensure that the system is operating properly and confirm that stormwater discharging from the site is not adding contaminants to the Willamette River at concentrations that may pose a risk to human health or the environment. If ongoing stormwater monitoring data indicates exceedances of NPDES 1200-Z or other Portland Harbor specific benchmarks, then additional stormwater source control measures/best management practices may need to be implemented.

### Specific Comments

1. Section 2.3, Page 2.4.3 -- The detention volumes for the Outfall 3 and Outfall 4 stormwater treatment systems are listed as 29,462 and 17,085 gallons, respectively, in Section 2.4.3; however, the Stormwater Operations & Maintenance Plan lists the storage as 4,730 and 3,740 cubic feet (35,383 and 27,977 gallons), respectively. It is recommended that this discrepancy in detention volumes be addressed.
2. Section 5.2.2.1, Page 5-7 -- The assumption that the observed groundwater concentrations of chlorinated solvents in monitoring well MW-5 indicates a potential offsite source with the plume migrating onto the site is not supported by the lower concentrations of PCE detected in groundwater at the boring between monitoring well MW-5 and the rail spur (i.e., geoprobes GW 11, GP-108, GP-109, GP-110, and GP-111). The lower concentrations at these locations need to be addressed in the context of the hypothesis that an off-site plume is migrating onsite; otherwise, the hypothesis should be dismissed or modified. It is recommended that this concern be addressed.
3. Section 6.2.9, Page 6-5 -- As stated in Specific Comment 2, PCE concentrations in groundwater collected from the geoprobe borings between monitoring well MW-5 and the rail spur do not support the idea of an offsite upgradient source. While the PCE concentration at monitoring well MW-5 is not the maximum concentration observed at the Southeast Area, the data presented in Tables 5-2 and 5-12 indicated an increasing trend at this monitoring well. As stated in General Comment 1, additional monitoring at monitoring well MW-5 and other monitoring wells at the Southeast Area and Port of Portland Terminal 4 is needed to evaluate the stability of the groundwater plume. It is recommended that this data gap be addressed.
4. Table 6-5 -- The footnote to the table states that values exceeding the 2004 NRWQC 175 g/day consumption rate are in bold; however, many of the groundwater results in the table exceeding this criteria are not indicated as bold (e.g., monitoring wells MW-4, MW-5, and MW-6). It is recommended that the table be modified so that all results exceeding the NRWQC criteria are in bold.
5. Appendix B, Operations Manual for Stormwater Filtration System -- Aside from the minimum once a year removal of sediment from storm drain basins and lines, there is no criteria for when sediment must be removed. The manual should include criteria for what depth of accumulated sediment measured during the monthly inspection will trigger removal of sediment from the catch basin or storm drain line. It is recommended that this omission be addressed.

